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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,816	09/29/2003	Albert Kennedy Harrington	31433-44	2218

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EXAMINER	
WILKINS III, HARRY D	
ART UNIT	**PAPER NUMBER**
1742	

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/673,816	HARRINGTON ET AL.	
	Examiner	Art Unit	
	Harry D. Wilkins, III	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *16-18 and 33-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 19-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/29/03,1/19/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-15 and 19-32 in the reply filed on 10 February 2006 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-15 and 19-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinard et al (US 5,837,121) in view of Ball et al (US 4,481,083).

Kinard et al teach (see abstract, col. 1, line 4 to col. 4, line 6 and col. 4, lines 30-38) a method for preparing an anode plate for a capacitor including the steps of fabricating an aluminum plate, contacting the plate with an anodizing solution comprising glycerin, low amounts of water (inherently between 0.1 and 2.0 wt% due to absorption of water from the atmosphere), and 0.1-15 wt% dibasic potassium phosphate and a final step of anodizing the aluminum plate.

Kinard et al teaches examples where the anodization was carried out at up to 15 volts. Thus, Kinard et al fail to expressly teach anodizing at more than 220 volts. However, Kinard et al does teach that the thickness of the formed anodized layer was proportional to the applied voltage. Kinad et al also teach that the thicker the anodized layer was, the higher the operating voltage of the formed capacitor.

Therefore, it would have been obvious to one of ordinary skill in the art to have increased the applied voltage to have increased the thickness of the formed anodized oxide layer so that the formed capacitor could have been made to have a higher operating voltage.

Kinard et al fails to teach the "pre-hydrating" step.

However, Ball et al teach (see col. 1, lines 5-64) that in order for thicker anodized oxide layers to be formed (i.e.-those for higher voltage capacitors), the initial oxide layer on the aluminum must be "depolarized", which in the prior art was done by immersion in hot water prior to anodizing (i.e.-pre-hydrating).

Therefore, it would have been obvious to one of ordinary skill in the art to have performed a pre-hydrating step as taught by Ball et al in the process of Kinard et al for forming the high voltage capacitor because the pre-hydrating step allowed "depolarization" of the existing surface oxide layer enabling the thicker anodized oxide layer to be formed.

[It should be noted that the above rejection grounds rely on the "unheated" glycerin solution disclosed by Kinard et al.]

Regarding claim 2, Kinard et al teach (see col. 1, lines 38-40) that prior to anodizing the aluminum was etched to increase surface area.

Regarding claim 3, Kinard et al teach (see col. 1, lines 38-45) that in conventional anodizing the voltage applied was increased in increments with periods in multiple tanks at each level of voltage.

Regarding claims 4-5, it would have been obvious to one of ordinary skill in the art to have optimized the increments in the process to ensure proper anodic film formation while balancing reduced treatment time.

Regarding claim 6-8, it would have been obvious to one of ordinary skill in the art to have optimized the duration of each increment in the process to ensure proper anodic film formation while balancing reduced treatment time. Since the current decreases with time at a constant voltage, the duration of each increment was indicative of an expected current decrease.

Regarding claims 9-10, Kinard et al teach anodizing at 80-90°C (see example 5). One of ordinary skill in the art would have been led to use the same temperature for the unheated glycerin solution.

Regarding claim 11, Kinar et al teach a lower limit of phosphate of 0.1 wt%.

Regarding claims 12-13, Kinard et al teach using dibasic potassium phosphate.

Regarding claim 14, Kinard et al admit that dibasic potassium phosphate was chosen due to its solubility in glycerin. The phosphate was the desired reagent which produced improved results. Therefore, it would have been considered routine experimentation, and, thus, obvious, to one of ordinary skill in the art to have substituted other soluble phosphate salts for the potassium phosphate, such as ammonium phosphate.

Regarding claim 15, Kinard et al suggest using pure glycerin which, by mere exposure to the atmosphere contained about 1 wt% of water.

Regarding claim 19, Kinard et al teach (see col. 1, lines 38-45) that in conventional anodizing the voltage applied was increased in increments with periods in multiple tanks at each level of voltage. It would have been obvious to one of ordinary skill in the art to have optimized the duration of each increment in the process to ensure proper anodic film formation while balancing reduced treatment time. Since the current decreases with time at a constant voltage, the duration of each increment was indicative of an expected current decrease.

Regarding claim 20, Kinard et al teach (see col. 1, lines 38-40) that prior to anodizing the aluminum was etched to increase surface area.

Regarding claim 21, Kinard et al suggests using higher final voltages for achieving thicker anodized oxide layer thereby imparting a higher capacitor operating voltage.

Regarding claims 22-23, it would have been obvious to one of ordinary skill in the art to have optimized the increments in the process to ensure proper anodic film formation while balancing reduced treatment time.

Regarding claim 24-26, it would have been obvious to one of ordinary skill in the art to have optimized the duration of each increment in the process to ensure proper anodic film formation while balancing reduced treatment time. Since the current decreases with time at a constant voltage, the duration of each increment was indicative of an expected current decrease.

Regarding claims 27-28, Kinard et al teach anodizing at 80-90°C (see example 5). One of ordinary skill in the art would have been led to use the same temperature for the unheated glycerin solution.

Regarding claim 29, Kinar et al teach a lower limit of phosphate of 0.1 wt%.

Regarding claims 30-31, Kinard et al teach using dibasic potassium phosphate.

Regarding claim 32, Kinard et al admit that dibasic potassium phosphate was chosen due to its solubility in glycerin. The phosphate was the desired reagent which produced improved results. Therefore, it would have been considered routine experimentation, and, thus, obvious, to one of ordinary skill in the art to have substituted other soluble phosphate salts for the potassium phosphate, such as ammonium phosphate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Harry D Wilkins, III
Examiner
Art Unit 1742

hdw